

Appl. No. : 09/919,739  
Filed : July 31, 2001

### REMARKS

The Applicants have amended Claim 3 to add a step directed to outputting data indicating that the target molecule has been chosen as a marker molecule. Support for this amendment may be found in the specification, for example, at page 13, lines 6-7. The Applicants have also amended the defining step of Claim 3 and added a repeating step. These amendments were made to make the previous defining step clearer. The combined defining and repeating steps have the same scope as was intended in the previous defining step. Other amendments to Claim 3 were also made to make the language clearer. Claims 4, 7, and 8 were amended to be consistent with amended Claim 3.

Claims 3, 4, and 6-8 remain pending in the application. The Applicants have carefully considered all of the Examiner's rejections and remarks but respectfully submit that the claims are allowable for at least the following reasons.

#### Rejections under § 101 – Statutory Subject Matter

The Examiner rejected Claims 3-4 and 6-8 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. In the rejection, the Examiner indicated that “a method step including the output of data to a display would nullify” the § 101 rejection. Office Action, page 5, lines 4-5. Accordingly, the applicants have added a method step to Claim 3 that requires outputting data indicating that the target molecule has been chosen as a marker molecule. Thus, the Applicants have satisfied the Examiner's requirements and respectfully submit that Claims 3-4 and 6-8 are directed to statutory subject matter.

#### Rejections under § 112 – Written Description

The Examiner rejected Claims 3-4 and 6-8 under 35 U.S.C. § 112, ¶ 1 as failing to comply with the written description requirement. The Examiner asserted that the sorting step previously claimed was part of the invention and therefore its removal did not find support in the specification. “A claim that omits an element which [an] applicant describes as an essential or critical feature of the invention originally disclosed does not comply with the written description requirement.” M.P.E.P. § 2163.05(i); *see also Gentry Gallery, Inc. v. Berkline Corp.*, 134 F.3d

1473, 1480. While the specification did disclose an embodiment where a sorting step was performed (e.g., Figure 2), the specification nowhere describes such a step as an essential or critical feature of the invention. One skilled in the art would understand from Figure 2 and the specification's description of it that sorting molecules is not necessary to obtain marker molecules using the procedure described in Figure 2. For example, one skilled in the art would understand that the MOLCNT values determined at process block 28 could be determined by a number of methods. One method, as indicated in one embodiment of the specification, would be to count the number of molecules away from a DTC molecule in the descending sorted order at which the FCP drops below a threshold. However, the MOLCNT value could be equivalently determined by determining the molecule having a FCP metric below the threshold and having the greatest structural similarity to the DTC molecule and then counting all molecules having a greater structural similarity than that molecule (e.g., by evaluating every molecule in the training set and counting only those having a greater structural similarity). Claim 3 currently covers both methods. For example, the determining step in Claim 3 could be performed by sorting the molecules in descending structural similarity from the target molecule and then finding the first molecule reached that has a FCP metric below the threshold (which would necessarily be the molecule below the threshold value that has the highest structural similarity to the target molecule). Alternatively, the determining step in Claim 3 could be performed by evaluating all molecules having an FCP metric below the threshold and determining which one has the highest structural similarity. Accordingly, sorting is not an essential or critical feature of the invention.

Furthermore, the specification discloses embodiments that do not include a sorting step. For example, Figure 1 discloses an embodiment that does not specify that a sorting step is conducted. Therefore, the specification clearly indicates that sorting is not an essential or critical feature of the invention. Accordingly, the Applicants respectfully submit that removal of the sorting step from Claim 3 does not lack written description support in the specification.

The Examiner also argued that the claimed "numerical similarity" did not have support in the specification. However, the Examiner did state that "structural similarity" found support in the specification. Accordingly, the Applicants have replaced "numerical similarity" with "structural similarity," thus overcoming the Examiner's rejections. The Applicants note that, as

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stated in the specification, the claimed structural similarity metric may be “derived from any of a wide variety of structural similarity comparison methods” including descriptor based comparisons. *See* page 6, lines 20-26.

#### Rejections under § 112 – Indefiniteness

The Examiner rejected Claims 3-4 and 6-8 under 35 U.S.C. § 112, ¶ 2 as being indefinite. The Examiner asserted that the usage of “set” and “subset” in Claim 3 was unclear. The Applicants have clarified Claim 3 by defining a “training set” and a “first subset” so that it is always certain which group of molecules is being referred to throughout the claim. The Examiner also argued that the phrase “each other molecule” was vague. The Applicants have amended the defining step to specify a “first molecule” and added a repeating step to indicate that the defining step is repeated for each molecule except the target molecule. These amendments also address the Examiner’s other concerns regarding the lack of clarity in the defining step. Finally, the Examiner noted that the phrase “said number of molecules” in the choosing step lacked antecedent basis. The Applicants have amended the phrase to specify that it is the number of molecules determined in the counting step that is being referred to. Accordingly, the Applicants have addressed all of the Examiner’s concerns with respect to indefiniteness of Claim 3 and they respectfully submit that Claims 3-4 and 6-8 are definite.

#### **CONCLUSION**

By the foregoing amendments and remarks, the Applicants respectfully submit that they have overcome all of the Examiner’s rejections and request a timely issuance of a Notice of Allowance.

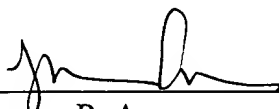
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Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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